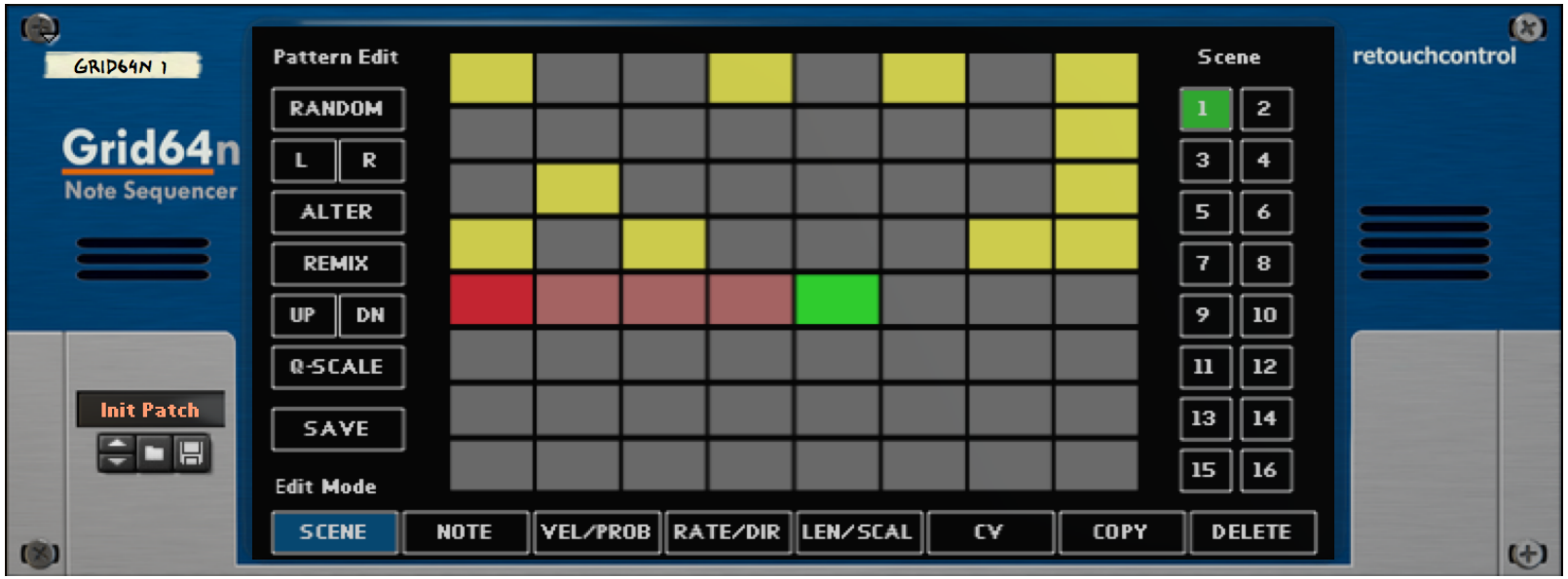
Grid64n Note Sequencer

Rack Extension for Propellerhead Reason



USER MANUAL

version 1.0.4

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Introduction

The **Grid64n** is a monophonic note step sequencer device for Propellerhead's Reason. Its notes and CV step sequencing capabilities make it ideal for creating melodies and basslines. Its main features are:

- 32 steps matrix with control over the direction, rate and the length of the pattern
- step input of notes with control for note type, octave and duration (from 1/32 to 1/2 bar), note velocity and triggering probability
- various pattern edit functions, including randomize, alter and remix notes, shift left and right, or shift up and down the octave
- 16 scales types with a "quantize to scale" function to force the notes to the chosen scale
- CV out per step with various modes, including bipolar, inverse, rectified positive and negative
- 16 scenes with the ability to copy, paste and delete scenes. Also scenes can be saved in a patch for later recall
- scene in and out CV connections which allow to chain several devices together for more complex sequencing arrangements
- recording scene changes in the Reason sequencer
- native Remote support for several third party 8x8 grid midi controllers, including he Novation LaunchPad series, Ableton Push, Maschine Jam and more.

This last feature is noteworthy as the goal was to create a device which could be programmed "hands on" in a fast, intuitive and fun way from a 8x8 grid MIDI controller.

Main Areas - Front

1. The 8x8 grid is divided in 2 areas:

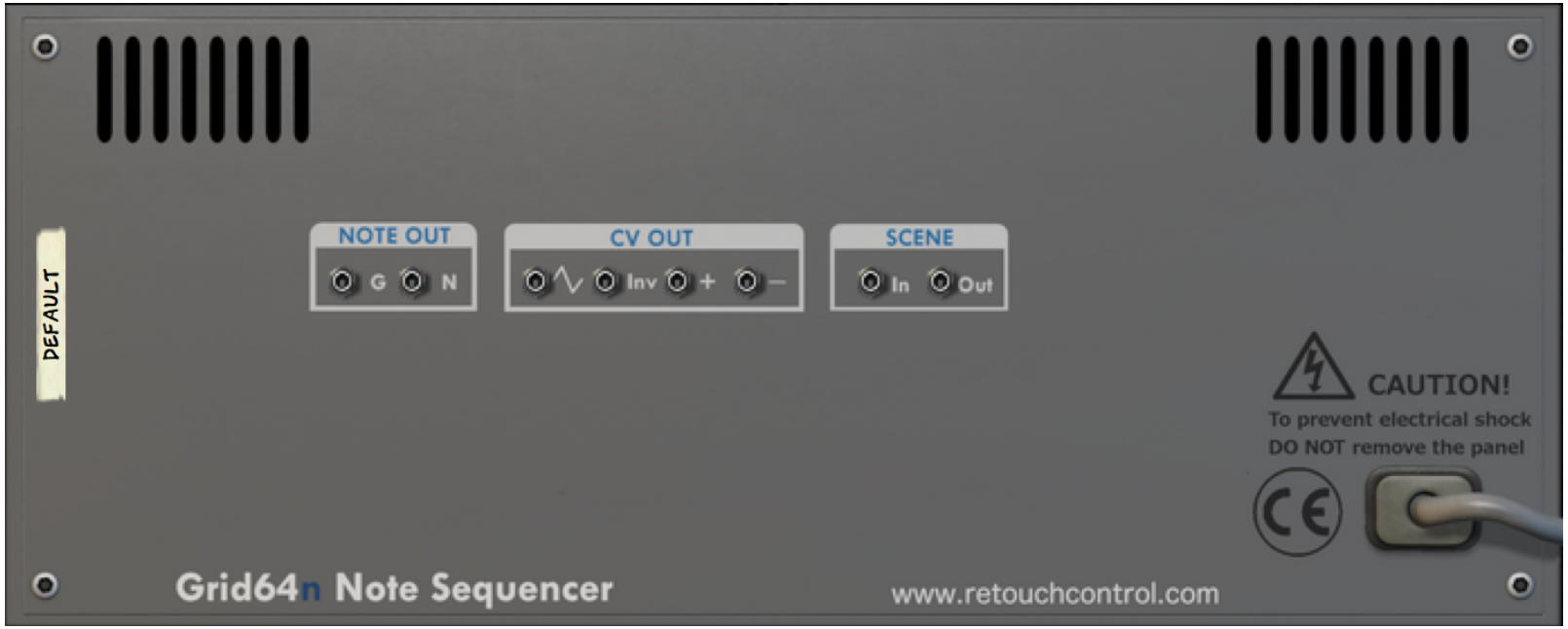
   - the top half is for programming patterns of up to 32 steps [32 steps programming]
   - the lower half is for editing of notes, selection of scale type and key, etc

2. The “Pattern Edit” buttons on the left side allow to alter the pattern in several ways

3. The “Edit Mode” buttons select which function is enabled in the edit area

4. The “Scene” buttons on the right side select one of 16 available scenes. Scene switching is immediate, it can be recorded and edited in the Reason sequencer.

Main Areas - Back



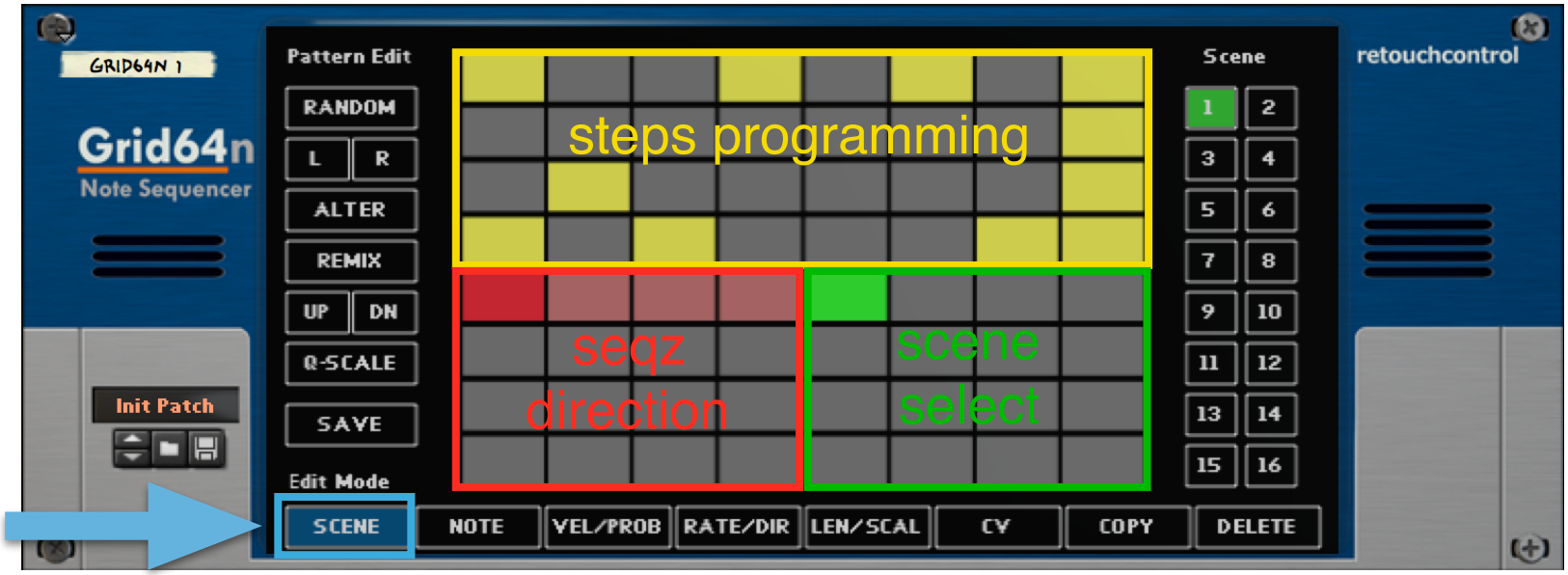
There are 3 main areas in the back of the device:

1. Note Out - these outlets will send the note and gate values if there is a step programmed in the pattern. The gate outlet will also output a velocity value which is quantized between 0 and 127 in 16 divisions with minimum value of 8 and maximum value of 127.

2. CV Out - the first outlet will send a bipolar value if there is a step programmed in the pattern. The CV value is between -1 and 1 and it is dived in 64 discrete values. Furthermore, there are 3 additional CV output modes. These are:
    - INV the original CV values are inverted
    - + only the positive CV values are outputted
    - - only the negative CV values are outputted

3. Scene In and Out - each device is capable of sending its scene out CV and receiving a scene in CV from other devices (not both at the same time). It is thus possible to chain multiple devices together so that their scenes change at the same time. Furthermore, if a device is sending a channel CV output greater than 0, this could also be used to change the scene on another connected device. Please be aware, if the device scene selection is controlled by another device, you won't be able to change scenes from the GUI any longer. Also, you won't be able to copy scenes, but all other programming is possible.

Edit Mode - Scene

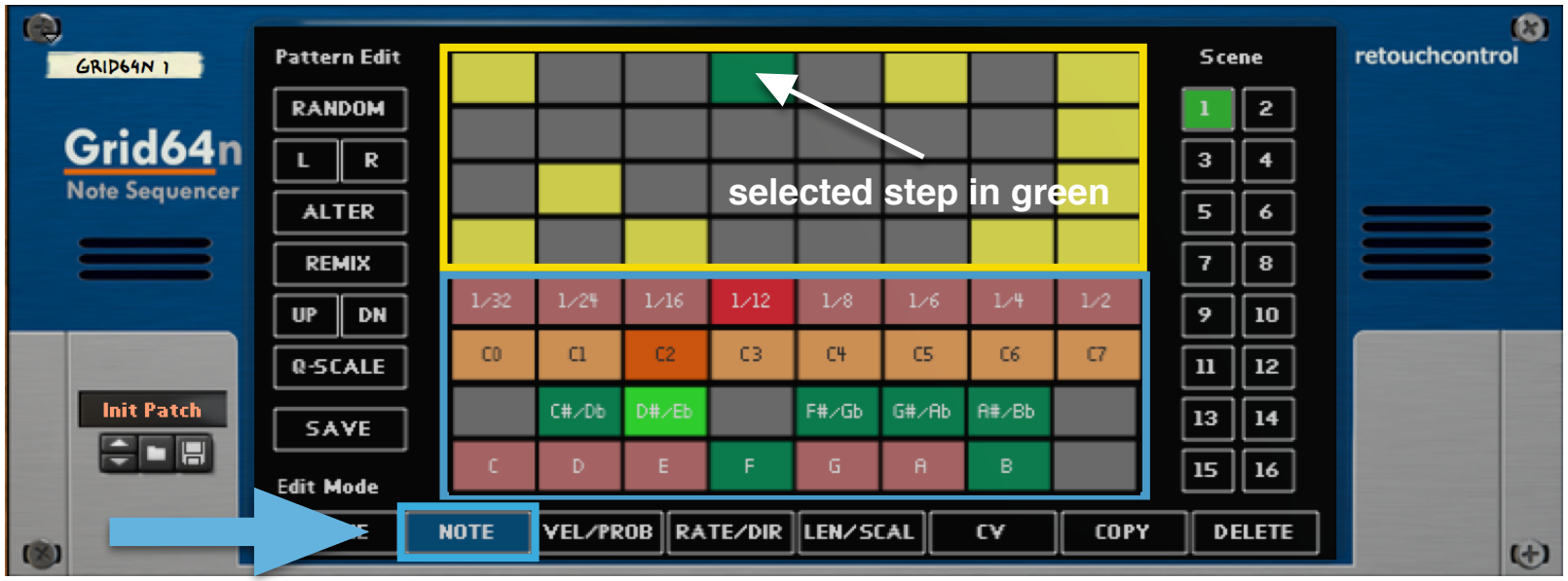


When the “Edit Mode” is set to “Scene”, the top half of the grid can be used to program up to 32 note steps. By default, when you activate a gate, the note assigned to the step is the root of the chosen scale and key, with a default duration of 1/16 and in the 3rd octave (C3-B3). This mode is useful for quickly creating a rhythm, without worrying about the note selection which can be later customized in the “Note” node. The pattern can be altered in various ways with the “Pattern Edit” buttons on the left side.

The lower left quadrant is used to select the direction of the sequence. There are 4 modes and these are “forward”, “reverse”, “pendulum” and “random”.

The lower right quadrant can be used to switch between one of 16 scenes.

Edit Mode - Note



When the edit mode is set to “Note”, it is possible to adjust the note value for the selected step. You select a step by clicking on it in the top half of the grid. When a step is selected, it is shown in green.

The note is adjusted in the bottom half. The first row in red will set the note duration, from 1/32 to 1/2 bar. Since the device is monophonic, a note will play for its specified length only if there is not another note programmed in the course of its duration. If there is another note programmed, then it will stop playing as soon as the new note starts.

The second row in orange sets the note octave, all the way from the 0th to the 7th octave.

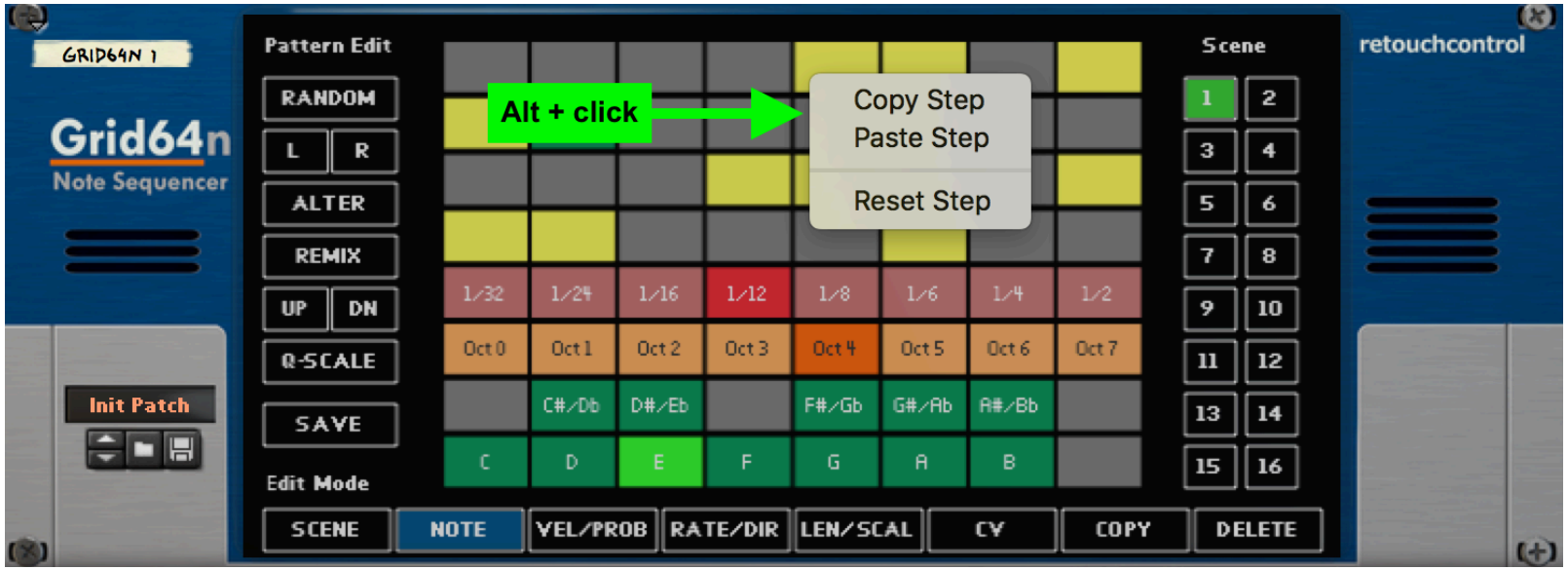
The last two rows represent one octave of the keyboard. Here you pick the note type for the selected step. Notes within the chosen scale are shown in green, while notes which are not in the scale are shown in red.

TIP: *if you select an empty step, you can create a note event by pressing on one of the keyboard keys. Similarly, to erase a step, click on one of the “grey” buttons in the keyboard area.*

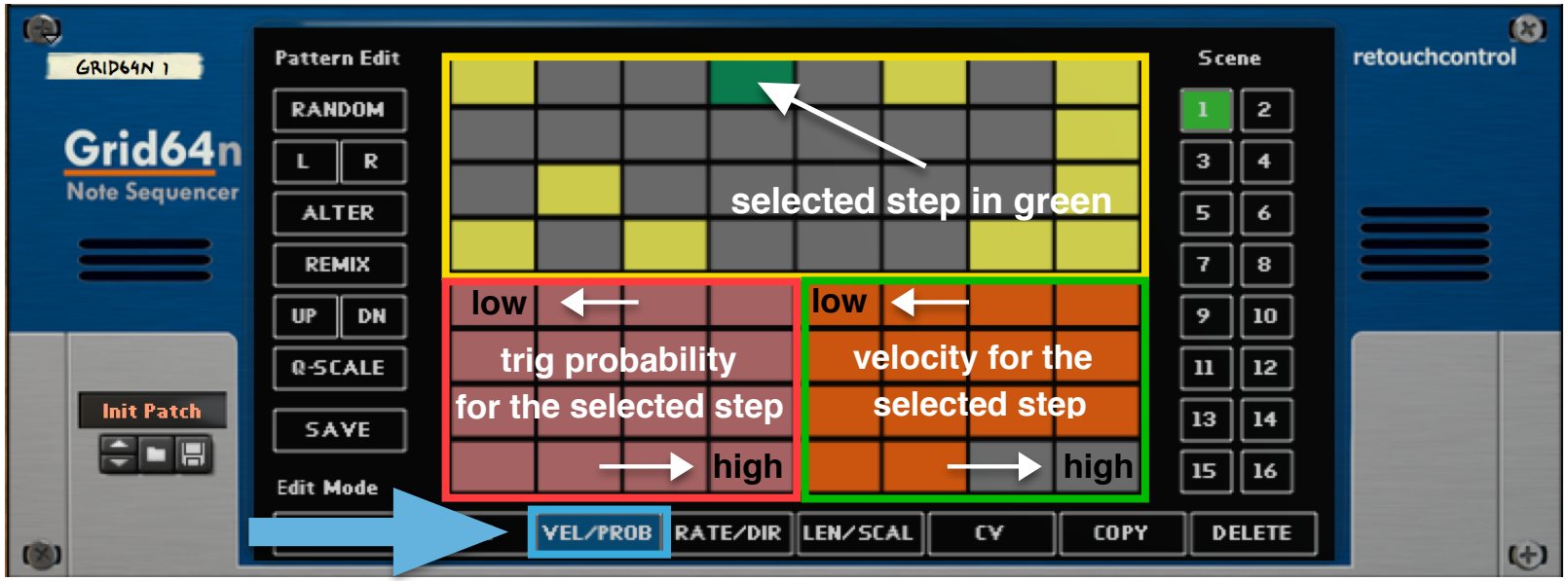
New in v 1.0.4

If **Shift** is pressed on the keyboard while clicking with the mouse on a note value, a duration value or an octave value, that particular value is going to be assigned to all the steps in the pattern. This speeds up editing when wanting to assign all steps to the same note, same duration or same octave.

If **Alt** is pressed on the keyboard while clicking with the mouse in the display, an edit menu offers the options to copy, paste and reset a given step. A step can be copied and then pasted to another location within the same pattern or into another pattern in a different scene.



Edit Mode - Velocity/Probability



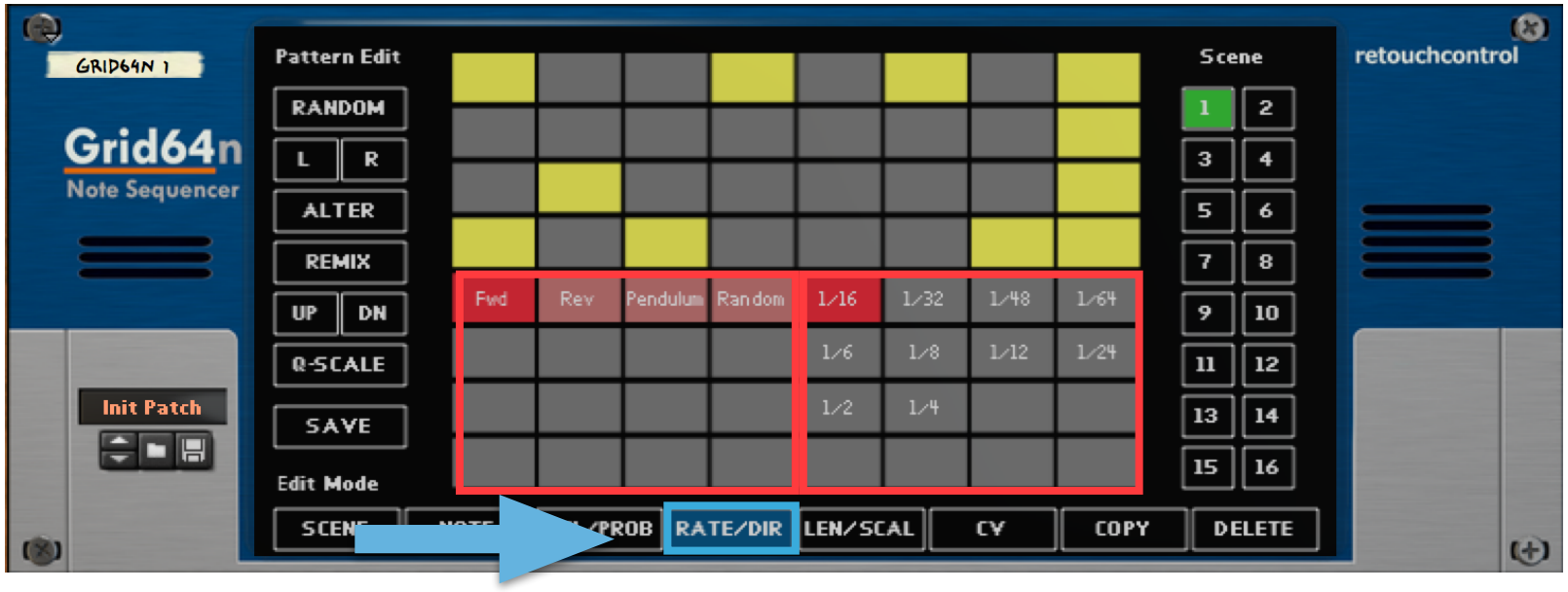
When the edit mode is set to “Vel/Prob”, the top quadrant is used like in the “Note” mode to select a step. The selected step is shown in green. The bottom right quadrant is used to change the velocity for the selected step. The velocity can be adjusted in 16 discrete values, going from low to high from top to bottom.

The bottom left quadrant is used to change the triggering probability for the selected step. The probability can be adjusted in 16 discrete values, just like the velocity, going from low to high from top to bottom. A note with the maximum probability is always triggered, while a note with half probability will have a 50% chance of being triggered. By default, all notes are created with 100% probability of being triggered.

New in v 1.0.4

If **Shift** is pressed on the keyboard while clicking with the mouse on a probability or velocity value, that value is going to be copied to all active steps in the pattern.

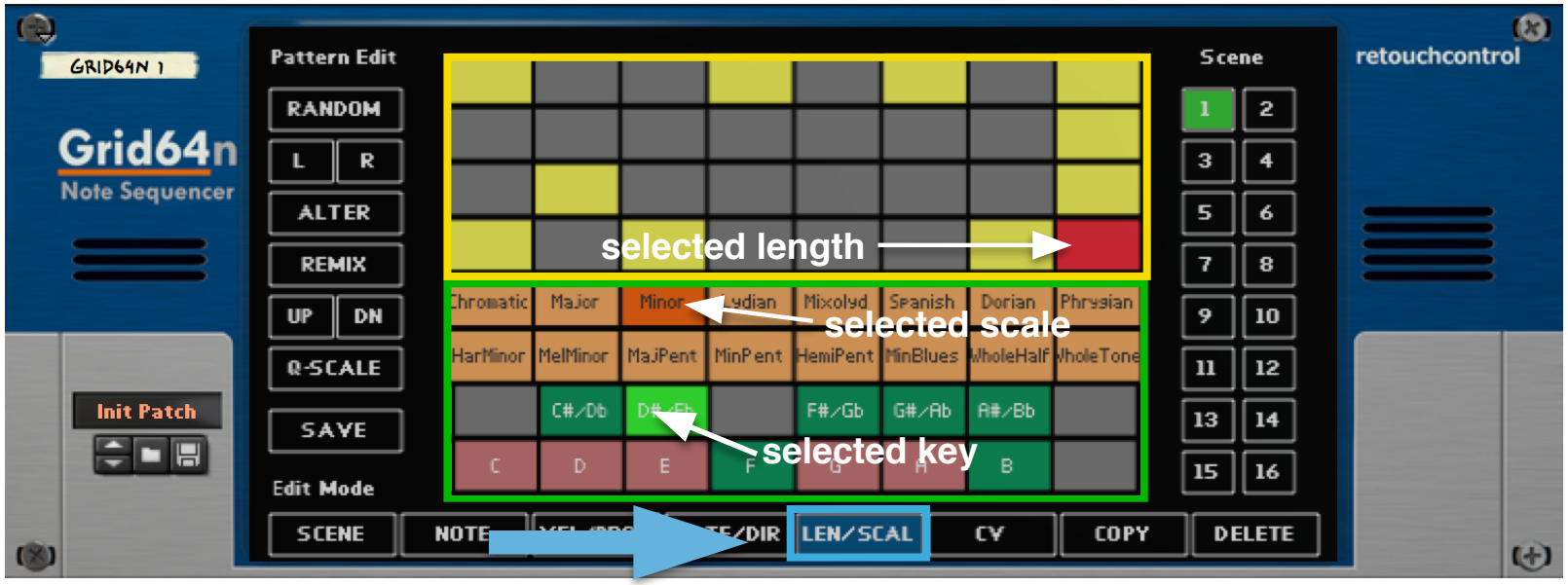
Edit Mode - Rate/Dir



When the edit mode is set to “Rate/Dir”, the lower right bottom quadrant can be used to change the sequencer rate for the selected scene. There are several rates options, from 1/64 all the way to 1/4.

The lower left quadrant can be used to change the direction of the sequence. These are the same as the ones described in “Scene” mode.

Edit Mode - Length/Scale

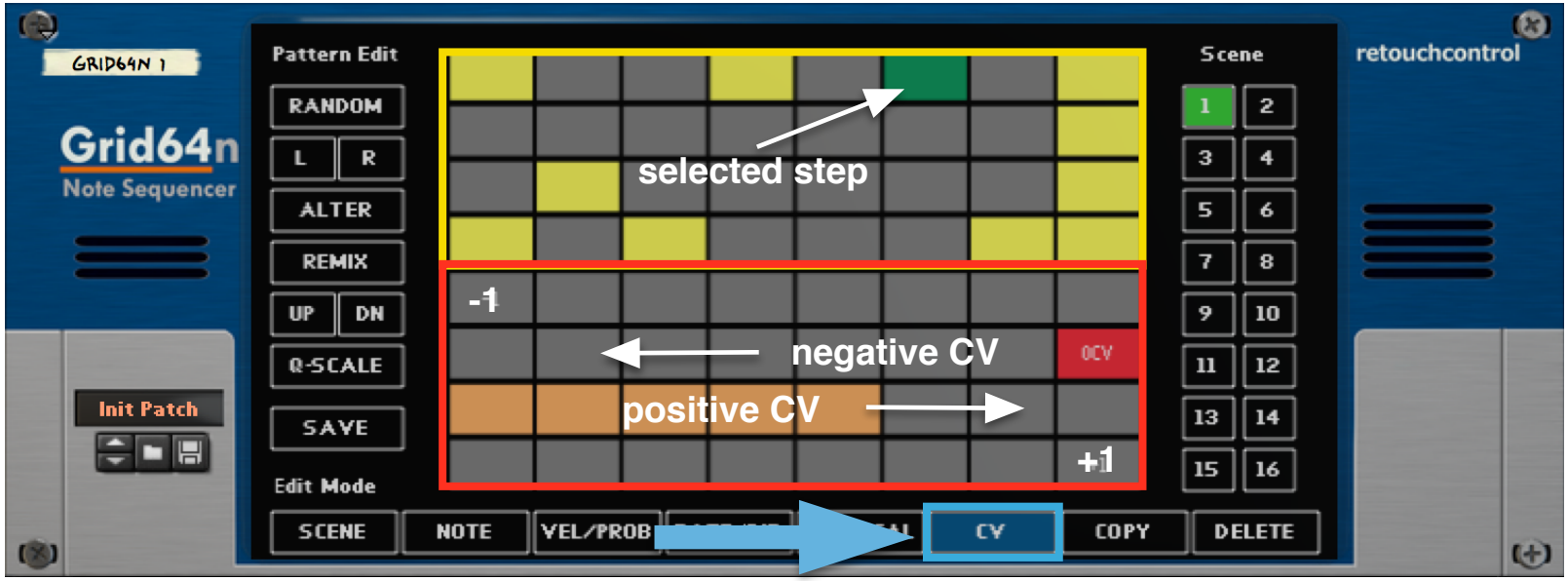


When the edit mode is set to “Length/Scale”, the top half is used to adjust the pattern length. The end step of the pattern is shown in red. By clicking on a different step, you change the length of the pattern. The minimum length is 2 steps.

On the lower half, the first two rows are used to select one of 16 scale types, while the bottom two rows represent the octave of the keyboard and are used to set the key for the scale. The notes which belong to the scale are shown in green, with the selected key shown in a brighter green. The notes which do not belong to the scale are shown in red.

IMPORTANT: *when you select a scale and key, the notes in the currently playing pattern are adjusted to fit the selected scale and key. This “translation” will change the original pattern, so that if you return to the previously selected scale and key, it will likely sound different. If you plan on changing the key and scale of your existing pattern, it is advised that you make a copy of it and experiment with that, leaving the original pattern unchanged.*

Edit Mode - CV



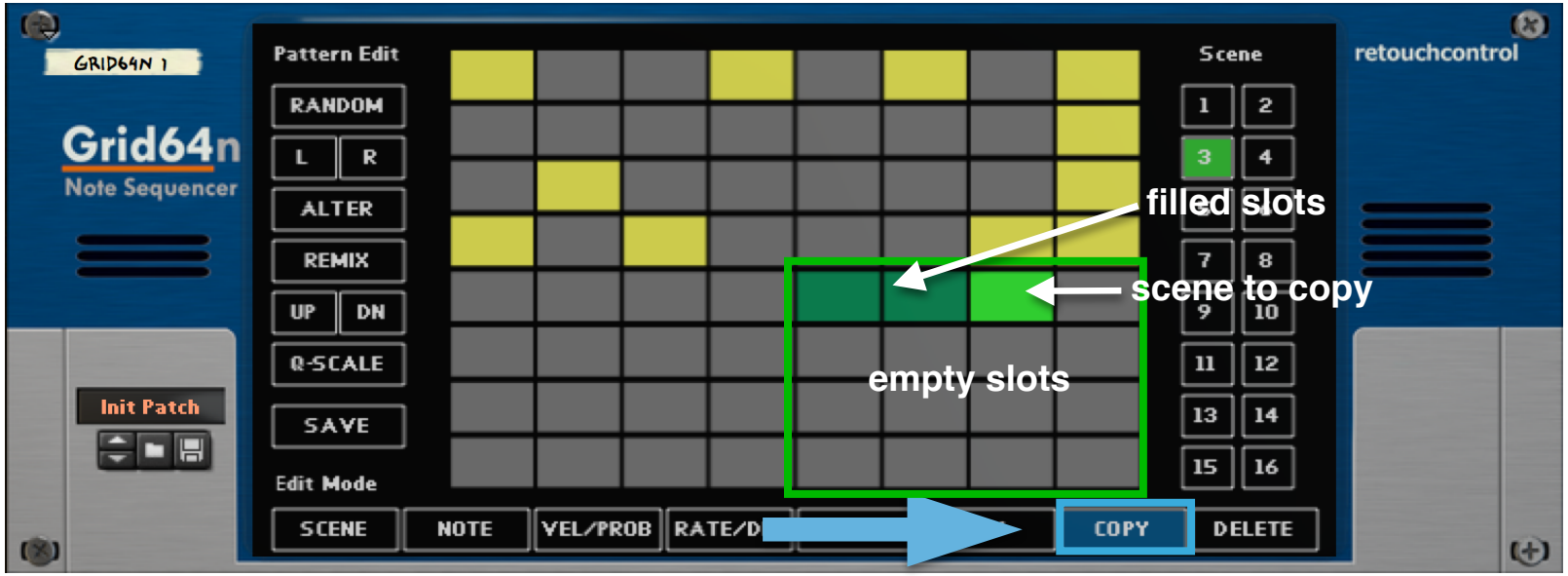
When the edit mode is set to “CV”, it is possible to program a CV output value for the selected step. As usual, a step is selected by clicking on it in the top half part of the grid. A selected step is shown in green.

The bottom part of the grid is used to program the CV value. The CV output is bipolar with a total of 64 discrete values. The red step is the 0 CV value. Please note, a CV value will be outputted only if there is a gate event programmed for the selected step. Once a CV value other than zero is outputted, it will

New in v 1.0.4

If **Shift** is pressed on the keyboard while clicking with the mouse on a CV value, that value is going to be copied to all steps in the pattern.

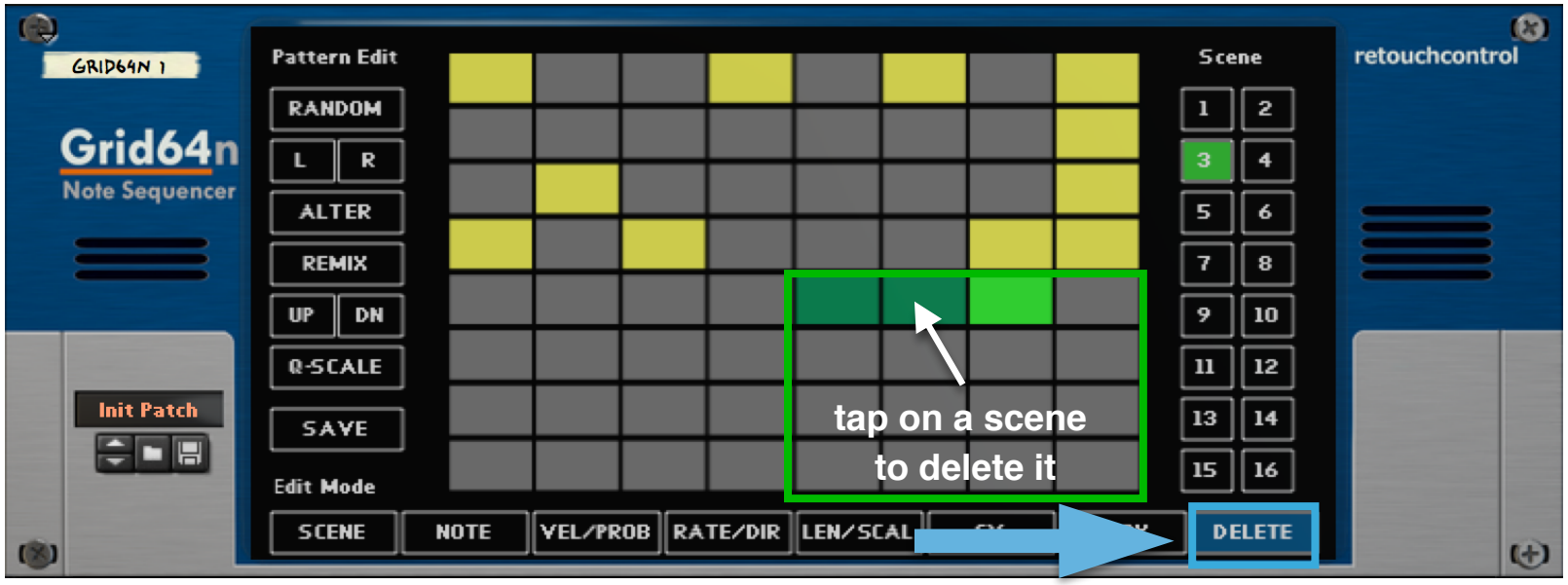
Edit Mode - Copy



When the edit mode is set to “Copy”, it is possible to duplicate the currently selected scene to other empty slots. To copy a scene do the following:

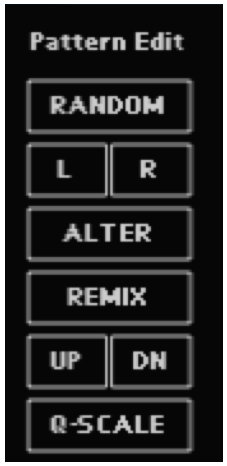
1. Choose a scene whilst in “Scene” mode
2. Enter “Copy” edit mode
3. Tap on an empty scene slot. The scene is now copied. Please note, the scene can also be copied unto a slot with existing pattern data. In this case, the previous data will be overwritten.

Edit Mode - Delete



When the edit mode is set to “Delete”, it is possible to delete scenes. Just click on the scene you want to delete and all its data is erased. Please be aware that if the scene was programmed via a remote surface and the pattern data was not saved in memory, then the operation cannot be undone in Reason’s undo history. For more info on saving patterns programmed from a remote surface, please read the section “Remote Control”.

Pattern Edit



Randomize: if in “Scene” mode, it will create random notes and randomize all its parameters. If in “Note” mode, it changes randomly the note type and duration, but it will not affect the note position or the note velocity. If in “Vel/Prob” mode, it will only randomize the velocities of the notes. Similarly, if in “CV” mode, it will only affect the CV for the step.

Shift Left and Right: shift the steps one step to the left or the right

Alter: if in “Scene” mode, it will alter the current pattern by creating some random notes and randomize all its parameters. Most of the notes will remain unchanged. If in “Note” mode, it will change randomly the note type and duration, but it will not affect the note position or the note velocity of few notes. If in “Vel/Prob” mode, it will only randomize the velocities of few notes. Similarly, if in “CV” mode, it will only affect the CV for the step.

Remix: it will change the relative location of the notes in the pattern but it will keep their values unchanged.

Shift Octave Up or Down: shift the all the notes in the pattern one octave or down

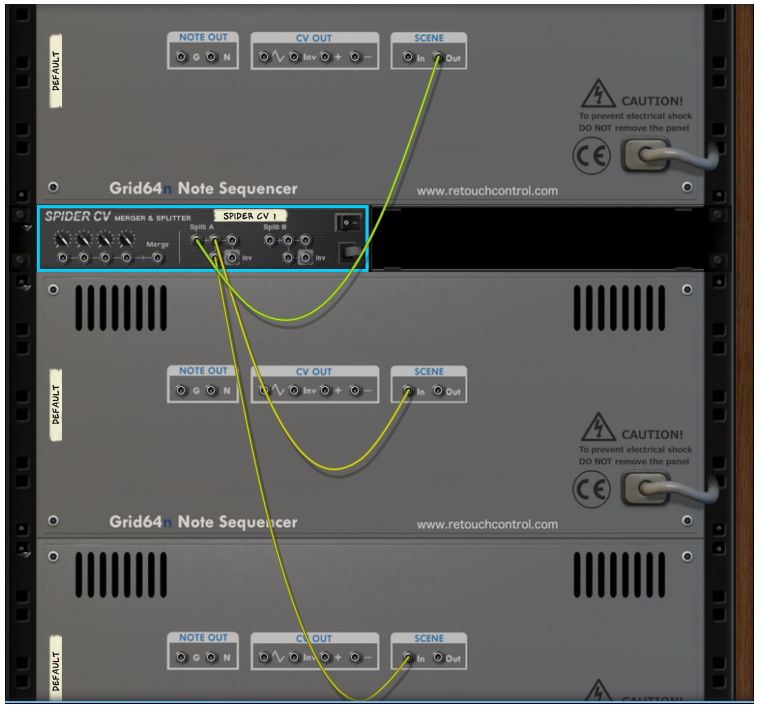
Q-Scale: quantizes the notes to the selected scale and key. You should use this after using the “Random” or “Alter” edit functions on a pattern which already has a selected scale and key. Or if you want to correct any out of “tune” notes which you have programmed manually.

Chaining devices

It is possible to chain devices together such that the scenes change in unison. The device sending the scene gate out is the master, while the other devices are slaves. When a device is slaved to another device is indicated by a red “EXT” sign on the LCD. Once slaved, scenes can only be changed remotely. Furthermore, you won’t be able to copy scenes but all other programming is still possible.

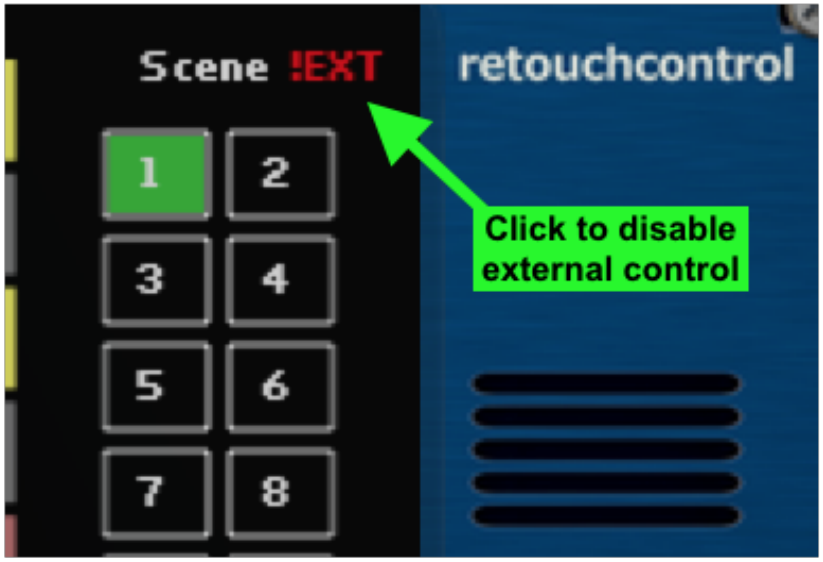
New in v 1.0.4

Clicking on “EXT” disables external scene control. This will allow to change and make edits to the scenes. When external control is disabled, the text changes to “!EXT”. Clicking on it once more enables external scene control again.



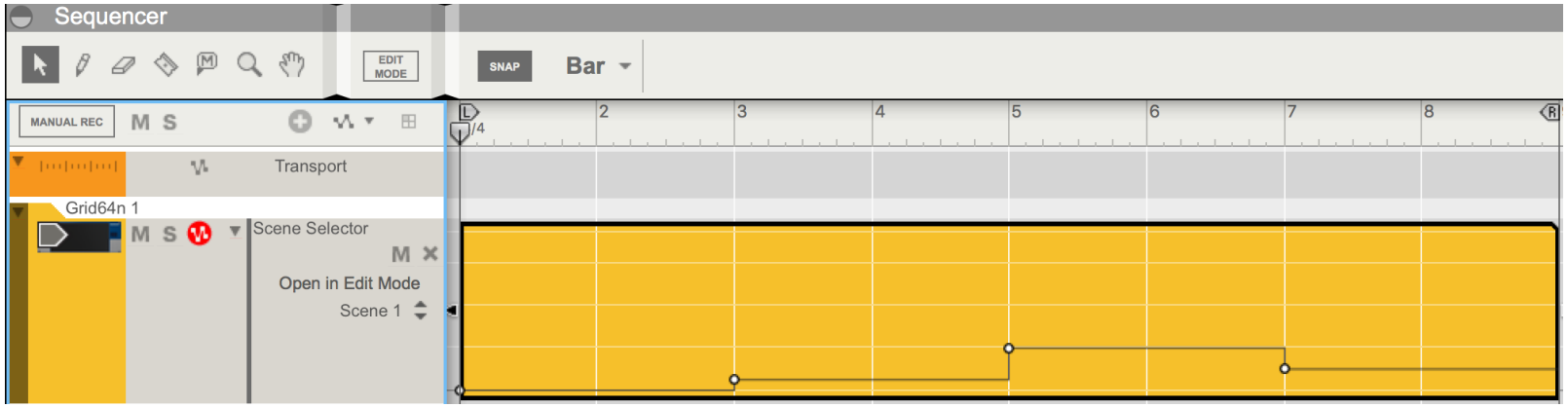
Master and 2 slaves

“EXT” mode sign


Scene !EXT
retouchcontrol
1
2
3
4
5
6
7
8
Click to disable
external control

Recording and Automation

You will be able to record your performance in the Reason sequencer whilst switching from one scene to another. Since scene switching is immediate, you can later edit the automation in the sequencer to set precise transitions, if so desired.

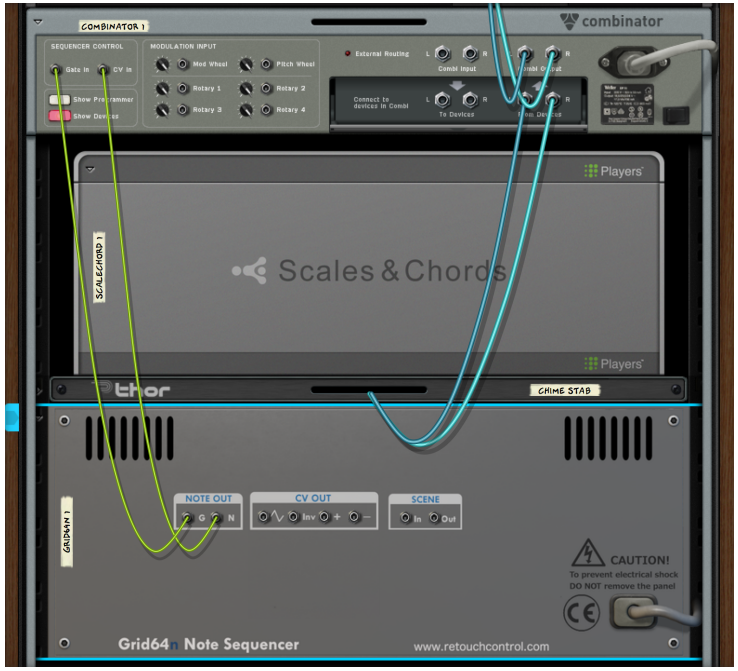


Scene Automation

Transferring Patterns to Track (Reason 9 and above)

Transferring patterns to track is accomplished via the “Players” devices. Below, the connections are shown when using the “Scale&Chords” Player device. Here are the steps to transfer the selected pattern to its own note lane in the sequencer:

(a) combine the Grid64n and the target device into a combinator and connect the Note and Gate to the combinator Gate and CV inputs as shown below in the image on the left.
(b) add a “Scale&Chord” Player above the target device, turn “Chords” off and use a C Chromatic scale
(c) now tab to the front of the rack and press “Send to Track” on the Player device



Connect the AUX Gate and Note to the inputs of a combinator

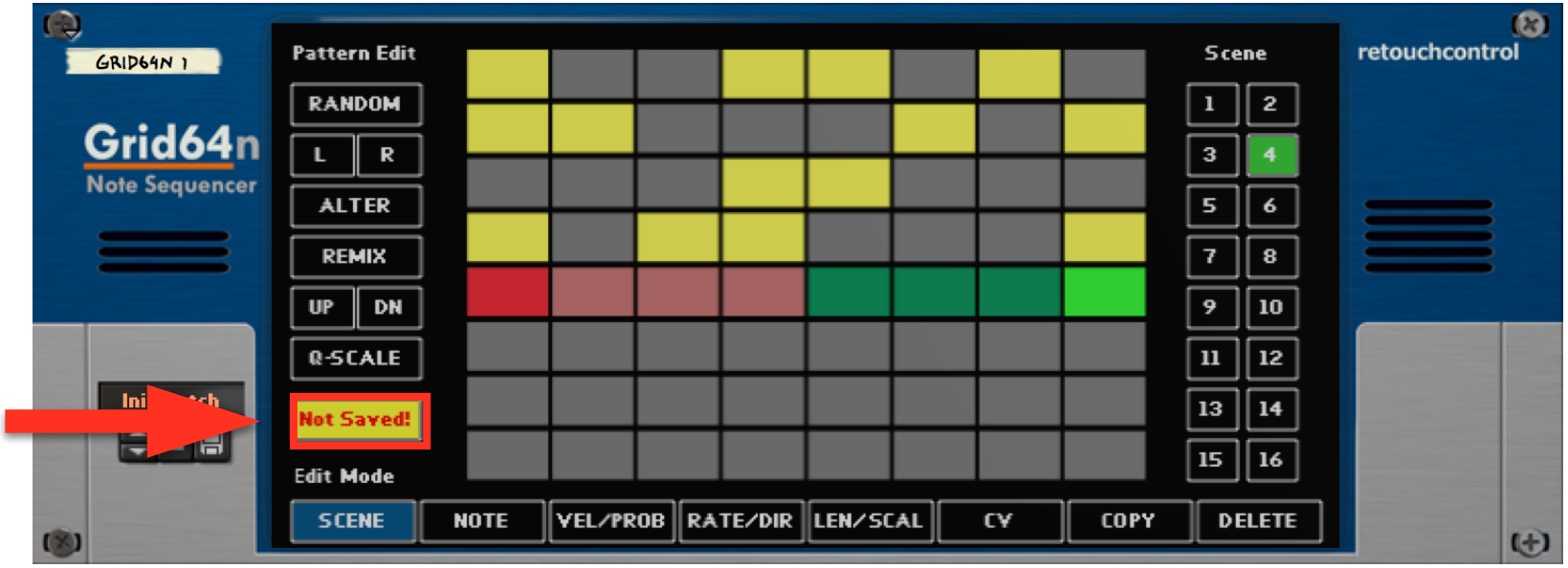
Press the “Send to Track” on the Player device to copy the pattern to track

Remote Control

The **Grid64n** was designed to support natively various grid MIDI controllers, including Ableton Push, the Novation Launchpad series, Maschine Jam and more.

Please note, when programming the device via a supported remote interface, the patterns are not automatically saved by the device. As such, they need to be saved by hand with the mouse from the device GUI. Once saved in memory, the patterns will be recalled correctly the next time the song is opened and they can also be saved in a patch.

If some of the pattern data has not been saved, a “Not Saved” message will appear on the Save button. Press it in order to save all the unsaved pattern data. ***Important***: please keep the mouse clicked until the “Not Saved” message disappears. Only then, you’ll know that the patterns have been properly saved in memory.

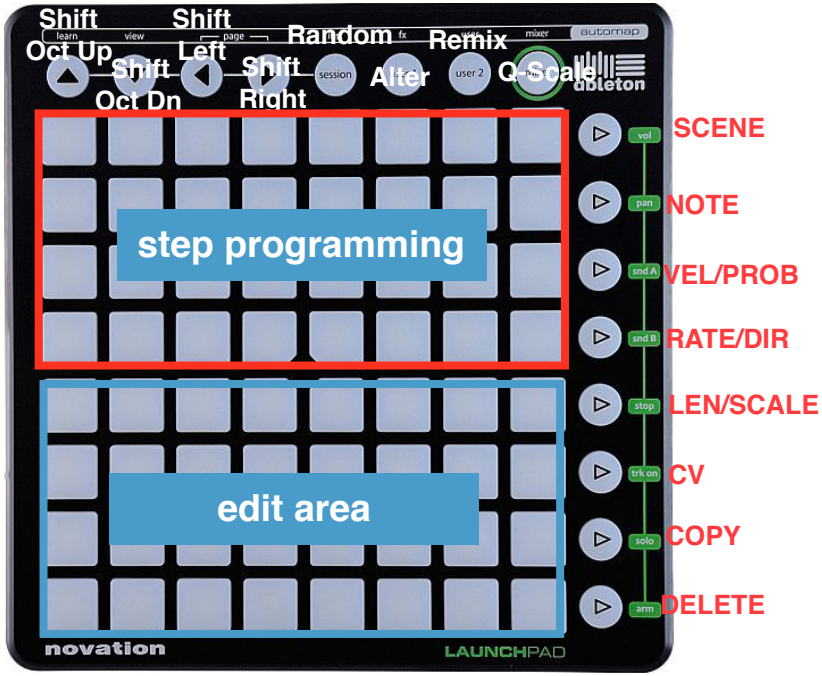


Ableton Push remote control

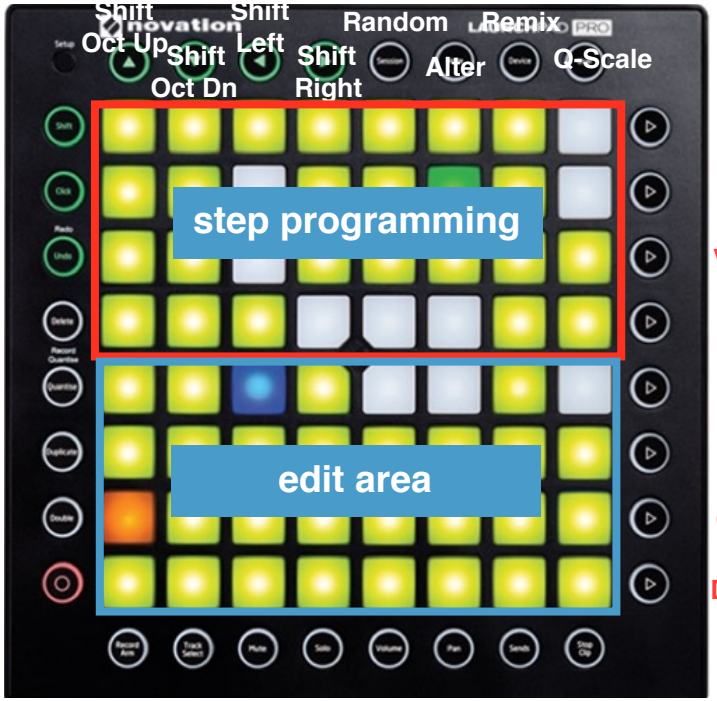
For the best integration of Ableton Push with Grid64n, the “PusheR” application is highly recommended. For more info on PusheR, please visit www.retouchcontrol.com/pusher. In order to use Grid64n with Push or Push2, you will need to create a control surface in Reason. But first, you will need to download and install the proper Remote Files. These can be obtained from www.retouchcontrol.com/grid64n. In the download you will also find instructions on how to install the files and create the control surface.

Novation Launchpad remote control

In order to use Grid64n with the Launchpad, you need to create a control surface in Reason. But first, you will need to download and install the proper Remote Files. These can be obtained from www.retouchcontrol.com/grid64n. In the download you will also find instructions on how to install the files and create the control surface.



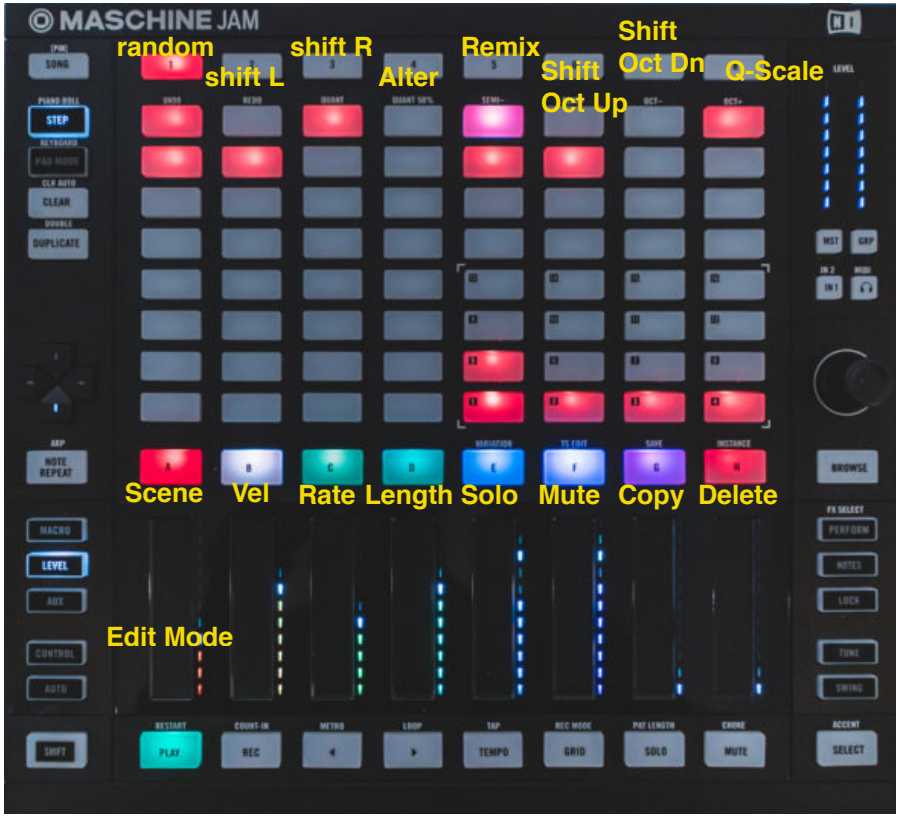
LP Mk1, Mk2, Mini



LP Pro

NI Maschine Jam remote control

For the best integration of Maschine Jam with Grid64n, the “MaschineRJam” application is highly recommended. For more info on MaschineRJam, please visit www.retouchcontrol.com/maschiner. In order to use Grid64n with the Maschine Jam, you will need to create a control surface in Reason. But first, you will need to download and install the proper Remote Files. These can be obtained from www.retouchcontrol.com/rackextensions/Grid64n. In the download you will also find instructions on how to install the files and create the control surface.



without MaschineR Jam

with MaschineR Jam

MIDI Implementation Chart

[CC 12] = scene

Remotable Items

Manufacturer	Device ID
Retouch Control	com.retouchcontrol.grid64N

Remotable Item	Min Value	Max Value	Input	Output
Grid LED <1-64>	0	7	—-	Value
Edit Mode	0	8	Value	Value
Scene Selector	0	16	Value	Value
Grid Button	0	64	Value	Value
Shift Left	0	1	Value	Value
Shift Right	0	1	Value	Value
Randomize	0	1	Value	Value
Remix Notes	0	1	Value	Value
Alter Notes	0	1	Value	Value
Q-Scale	0	1	Value	Value